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Strategies in Developing Agropolitan Areas in Indonesia

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Abstract

Agropolitan program, so far, has not been widely acknowledged by public. Various facilities have not been optimally utilized due to their functions as there are only limited parties aware upon this program. Developing agropolitan areas through superior horticultural commodities development has not increased farmers' exchange rate. Gaps between planning and implementation in developing agropolitan areas encourage a research with the goal of strategies in developing agropolitan areas in Rojonoto of Wonosobo district. Type of this research is a quantitative description. Primary and secondary data are used. The primary data are taken from 18 key-person agropolitan stakeholders. Priorities in developing Agropolitan areas in Rojonoto of Wonosobo district may be obtained through sequences of priority by improving human resources and technologies, the provision of production inputs, infrastructures, policies, and institutions. This study suggests that local government pay more attention to develop human resources and technologies, without disregarding to the other criteria.

Keywords: development strategy, agropolitan area, human resources, hierarchical analysis process
JEL Classification: R11, I38, O15, C440

Strategi Mengembangkan Daerah Agropolitan di Indonesia

Abstrak

Program Agropolitan sampai sejauh ini belum dikenal secara meluas oleh masyarakat. Berbagai fasilitas tidak dimanfaatkan secara optimal disebabkan karena fungsi mereka hanya terbatas pada pihak yang sadar atas program ini. Pengembangan wilayah wilayah agropolitan dengan mengembangkan komoditas hortikultural unggul belum mampu meningkatkan nilai tukar petani. Kesenjangan yang terjadi antara perencanaan dan pelaksanaan di daerah-daerah pengembangan agropolitan mendorong dilakukan penelitian yang bertujuan menemukan strategi pengembangan daerah agropolitan di Rojonoto, Kabupaten of Wonosobo. Jenis penelitian ini adalah deskripsi kuantitatif dengan menggunakan data primer dan sekunder. Data primer yang diambil dari 18 orang *stakeholder* agropolitan. Prioritas dalam pengembangan kawasan Agropolitan di Rojonoto Wonosobo dilakukan dengan urutan prioritas yaitu meningkatkan sumber daya manusia dan teknologi, penyediaan input produksi, infrastruktur, kebijakan, dan institusi. Studi ini menunjukkan bahwa pemerintah daerah lebih memperhatikan mengembangkan sumber daya manusia dan teknologi, tanpa mengabaikan kriteria lainnya.

Kata kunci: strategi pembangunan, daerah agropolitan, sumber daya manusia, hierarchical process analysis

Klasifikasi JEL: R11, I38, O15, C440

1. Introduction

Agropolitan program in Wonosobo district has been being conducted since 2004. However, its existence is not widely acknowledged by public. This condition has become its own obstacles in developing *agropolitan* program. Ideally, stake holders should be directly involved in each activity. In facts, the implementation is the other way around. Difficulties in coordinating *Stakeholders* to evaluate activities/ meetings result in less optimal development activities to determine.

Agropolitan program does not immediately attract public to utilize facilities which are purposefully established in *agropolitan* areas, such as agribusiness sub-terminal in Sempol village of Sukoharjo Sub-district. The location of agribusiness sub-terminal is actually strategic. However, since it is located in Sempol village, Rojonoto people are less interested in utilizing the facilities since it is quite far from Kaliwiro and Selomerto production centers.

There are only *salak* and *duku* traders found in this Agribusiness Sub-Terminal (AST). Trading activities happen only in harvest time. There are 19 kiosks at this AST. However, only 11 kiosks are used for storing and unloading *salak* and *duku*, the most prevalent commodities found in Leksono and Sukoharjo sub-district. Due to the supporting facilities, this AST has already had one marketing office, one mosque, two toilets, two canteens, and two grocery stores. Those are actually sufficient to support the functions of AST (Choliq *et al*, 2009; Puspitasari, L, 2009).

The establishment of Sawangan as a main city of agriculture is intended to accommodate/ store commodities coming from areas of production centers. In fact, it has not been utilized due to the defined regulations. Its present conditions, there are only bus and public transportation terminal. The established kiosks are mostly hired by grocers (4 kiosks), food vendors (10 kiosks), travel agents (8 kiosks), and a repair shop (1 kiosks) that the total is 23 kiosks. Consequently, farmers in Rojonoto areas prefer to sell their raw commodities to wholesalers who offer "delivery" services (Interviews of BPP sub-district and Respondents on February 16, 2015). The purchasing systems which are frequently used for their raw commodities are *ijon* (paying for in long before harvest) and wholesale. *Ijon* system is just like purchasing fruits on trees and which are not even ripen yet. Wholesale system is that wholesalers purchase the whole yields only by estimating them regardless to unit of account (price per kilogram). These systems give farmers no opportunity to obtain the added values of their farming business.

Developing *agropolitan* system which is based on superior commodities, so far, have not been able to improve farmers' income. In fact, Figure 1 shows that farmers' exchange rate especially horticultures tends to decline below 100, except the sixth and the tenth month since those are harvest time of some horticultural commodities. The farmers' exchange rate which is less than 100 shows that they experience deficit as the price index received by farmers is lower than that they have already paid. This condition supports that the existing *agropolitan* program has not been able to improve the horticultural commodities' exchange rate (Oyewo *et* al, 2009; Salim, 2006).

For those farmers who are open for innovations, they face the falling price on agricultural commodities by performing post-harvest processing activities to enhance products to have

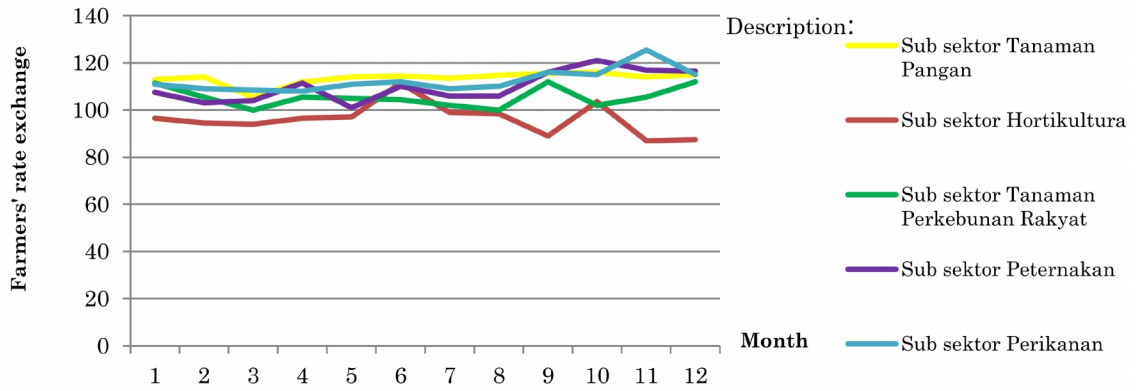

Figure 1. Farmers'exchange rates in Wonosobo based on agricultural sub-sector of 2013-2007

Source: Bappeda.wonosobokab.go.id.2014. The data are processed.

more durability and higher selling price. Having the official permission from Department of Health and SMEs, they still find it difficult to marketing the products that production may not be undertaken in regular basis. The consignment system is still used by SMEs in Rojonoto as their marketing system. Production activities are only possible to do in harvest time or based on orders that make productions in Rojonoto Agropolitan "rise and fall". Consequently, the processed products in these areas are not well recognized by Rojonoto people, moreover, public in general.

Through *Agropolitan* working programs, Local Government of Wonosobo does a lot of efforts to develop Rojonoto *Agropolitan* areas. In the period of 2014-2018, various programs have been planned to implement and develop better in *Agropolitan* areas of Rojonoto. Gaps between implementation and planning should be solved due to the priorities and commitments to implement them better. Developing *Agropolitan* areas should be followed by the progress of competitiveness on superior agribusiness products developed in agribusiness activities. Due to development urgency of these areas, local government's strong commitments to build supporting facilities are greatly required to accelerate it. "Developing *Agropolitan* areas is necessary for agricultural countries such as Indonesia, in order to improve people's welfare, reducing poverty, and expanding employment opportunities." (Prajanti *et al,* 2010; Kompas, February 6, 2003. Agropolitan City of Semarang District).

2. Research Method

This research is a quantitatively descriptive study, a research intending to understand strategies in developing Agropolitan areas in Rojonoto of Wonosobo district. Primary data are used in this study. They are directly obtained using *key-person* interviews and questionnaires: one person from Department of Cooperatives and SMEs; one person from Department of Agriculture and Foodstuffs of Wonosobo district; one person of *BAPPEDA* (Regional Development Agency); one person of Regional Secretariat for Economy and Investment; one person from Food Security Office; one person from Department of Industry and Trade; one person from Department of Public Works; one person from Department of Animal Husbandry and Fisheries; one person from Department of Tourism and Culture; one person from Department of Forestry and Plantation; one person from Agricultural extension agency in Kaliwiro sub-district; one person from Agricultural extension agency in Sukoharjo sub-district; one person from Agricultural extension agency in sub-district Leksono; one person from Agricultural extension agency in sub-district Selomerto; one person from the mainstay farmer groups association of fishermen; one person from crop farmers, one person from horticultural farmers, and one person from cattle farmers. Total key-persons in this study are 18.

This study uses *Hierarchical Process Analysis* (HPA), which is first introduced by Thomas L. Saaty in 2006. This method is a model of comprehensive decision-making since it takes many things into account, that are, qualitative and quantitative (Dalalah *et al*, 2010). *Pairwise comparison* method is conducted to determine priority elements in decision making by comparing each paired element against criteria specified in the form of a matrix. Assessment is conducted in scales defining the value up to 9. This value is determined as one consideration in comparing the similar paired elements to each hierarchical level upon those are at above criteria (Prajanti, 2014).

Table 1. Paired Comparison Scales

Value	Description
Value 1	Both factors are equally important
Value 3	One factor is a little bit more important than the others
Value 5	One factor is more important than the others
Value 7	One factor is the most important of the others
Value 9	One factor is absolutely more important than the others
Value 2,4,6,8	The values are in between, between two close consideration values

Source: Saaty, 2006

Data processing conducted using *expert choice* supporting device results in priorities presented in graphics focusing on strategies in developing *Agropolitan* areas due to the efforts on agriculture-based economic development in Rojonoto of Wonosobo districts. The priority sequences shown are in accordance with the weight of each alternative and criterion. If inconsistency value is ≤ 0.10, the decision making determined by respondents upon the priority scales is reasonably consistent.

Strategies in developing *Agropolitan* areas in Rojonoto use five main criteria (the provision of agricultural production inputs, development of human resources and technologies, infrastructures, institutions, and policies). Each of these criteria has some alternatives. (1) The provision of agricultural production inputs criteria have some alternatives: provision of qualified seeds and agricultural production machinery. (2) Human resources and technologies development criteria have some alternatives: post-harvest training, field study on pest management with integrated and standardized operating procedures; cultivation training, and souvenir making training.(3) Infrastructure criteria have some alternatives: irrigation improvement, new irrigation construction, farm roads development, agribusiness sub-terminal development, tourism village facilities development, and agricultural product markets development. (4) Institutional criteria have some alternatives: SMEs' support groups and farmers' institution strengthening. (5) Policy criteria have some alternatives: facilitation of home industry product packaging and labeling, strategic and integrated agribusiness sub-terminal development planning, Rojonoto Agropolitan product promotions and services, and food diversification.

Description:
Developing Agropolitan areas in Rojonoto of Wonosobo district is the objective (*goal*).
INPUT is the provision of agricultural production inputs criteria.
HR is the development of human resources and technologies criteria.
INFRASTR is infrastructure criteria.
INSTITUTION is institutional criteria.

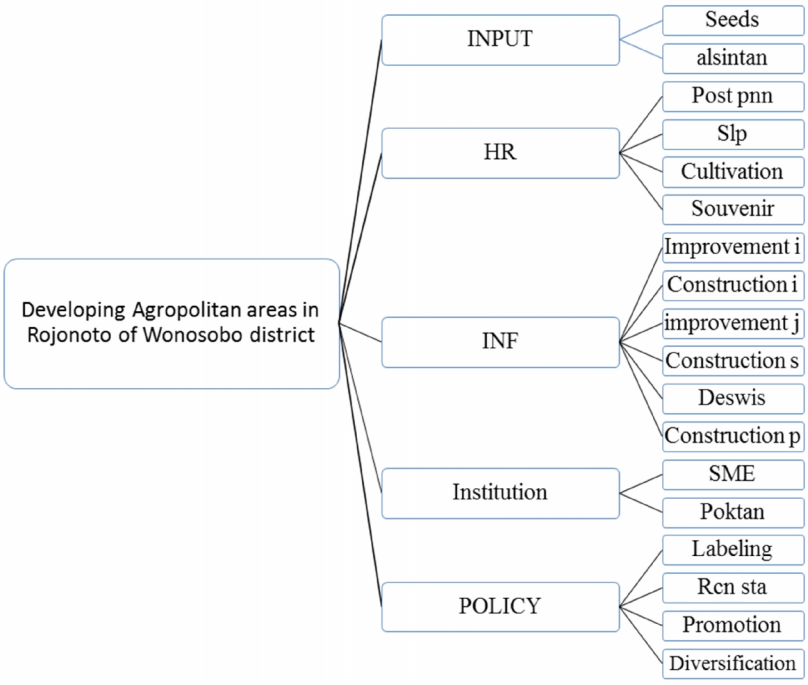

Figure 1. AHP Analysis Frameworks

Seed is the alternative of seeds provision including superior agricultural commodity seeds in Rojonoto.
Alsintan is the alternative provision of agricultural machinery including milking equipment, tractor, and *sprayer*.
Post pnn is the alternative post-harvest training to farmers by providing skills/training of agricultural commodity processing.
Slp is the alternative agricultural field studies as training/informal education to enable farmers recognize their land conditions.
Cultivation is the alternative cultivation training of superior commodities in Rojonoto.
Souvenir is the alternative souvenir making training for Rojonoto people.
Improvement i is the alternative irrigation improvement in Rojonoto areas.
Construction i is an alternative irrigation development in Rojonoto areas.
Improvement j is the alternative farm road improvement in Rojonoto areas.
Construction S is the alternative of agribusiness sub terminal construction in Rojonoto areas.
Deswis is the alternative tourism village facility development in Rojonoto areas.
Construction p is the alternative crops market construction in Rojonoto areas.
SME is the alternative SMEs' support groups in Rojonoto areas.
Poktan is the alternative farmer groups strengthening in Rojonoto areas.
Labellin is the alternative facilitation of home industry product packaging and labeling.
Rcn sta is the alternative strategic agribusiness sub terminal development plan in Rojonoto areas.
Promotion is the alternative Rojonoto Agropolitan product promotion and marketing.
Diversification is alternative food diversification through energy source diversity.

3. Results and Discussion

Agropolitan program in Wonosobo district starts in 2004. The locations of Agropolitan Rojonoto program are in four sub-districts of Wonosobo: Kaliwiro, Sukoharjo, Leksono, and Selomerto. Rojonoto Agropolitan area is 23,960 hectares or 24.18 percent of the entire territory of Wonosobo (98,468 ha), consisting of 76 Villages. That 24.18 percent area is divided into rice fields by 4.97 percent, agricultural fields by 11 percent, yards by 2.11 percent, state forests by 4.11 percent, plantations by 1.39 percent; pools by 0.23 percent; and others by 0.52 percent. Those show that the land is mostly use for agricultural fields.

Local government provides a wide range of physical facilities in every sub-district to support the upstream, midstream, and downstream agricultural activities. Health and other social facilities are already available in each production center area, while marketing facilities, especially animal markets, are not adequately available in every sub-district. In addition to these, there are other provided facilities, especially for Agropolitan development activities, such as agribusiness sub-terminal in Sempol village of Sukoharjo sub-district, and main agricultural city as both input and output activity service centers are located in Sawangan of Leksono sub-district.

3.1. Results

Based on HPA analysis, strategies in developing Agropolitan Areas in Rojonoto uses five main

Table 2. Supporting Social facilities in Rojonoto Agropolitan Areasof 2013

No.	Sub-district	Common Bank	BMT	Cooperation	Public Market	Animal Market	store/ shop/ kiosk	Saprotan Kiosk	Rice Mill
1.	Kaliwiro	3	6	11	8	2	710	10	71
2.	Sukoharjo	1	6	11	5	1	339	16	15
3.	Leksono	3	6	27	3	0	772	10	23
4.	Selomerto	2	7	28	5	0	663	25	53
Total		9	25	77	23	3	2484	61	142

Source: Statistics Book of Kaliwiro, Sukoharjo, Leksono, and Selomerto sub-district. 2014

criteria (the provision of inputs in crop production, development of human resources and technologies, infrastructures, institutions, and policies). The results show that the priorities in developing *Agropolitan* areas in Rojonoto of Wonosobo district may be obtained through sequences of priority including development of human resources and technologies with the weight of 0.293; the provision of production inputs with the weight of 0.281; infrastructures with the weight of 0.178; policies with the weight of 0.146; and institutions with the weight of 0.101. The inconsistency ratio value of 0.06 which is<0.10 is still in the consistent category.

The Provision of Agricultural Production Inputs Criteria. Strategies in developing Agropolitan areas in Rojonoto due to agricultural production inputs criteria may be obtained through some priorities: *first*, the provision of agricultural seeds with the weight of 0.655; *second*, the provision of agricultural production machinery with the weight of 0.345. The inconsistency ratio value at this stage is 0.00 which is <0.10 that the result of analysis is consistent.

The Development of Human Resources and Technologies Criteria. Strategies in developing Agropolitan areas in Rojonoto due to the development of human resources criteria thought some priorities: first, agricultural field study with the weight of 0.379; second, post-harvest training with the weight of 0.294; third, cultivation training with the weight of 0.199; and fourth, souvenir making training with the weight of 0.128. Inconsistency ratio value at this stage is 0.09 which is <0.10 that the result of analysis is still quite consistent.

Infrastructure Criteria. Strategies in developing Agropolitan areas in Rojonoto due to infrastructure criteria may be obtained thought some priorities: first, irrigation improvement with the weight of 0.267; second, new irrigation construction with the weight of 0.185; third, farm road improvement with the weight of 0.183; fourth, agribusiness sub terminal development with the weight of 0.122; fifth, village tourism facility development with the weight of 0.137; sixth, crop market development with the weight of 0.107. Inconsistency ratio value at this stage is 0.07 which is <0.10that the result of analysis is still consistent.

Institutional Criteria. Strategies in developing Agropolitan areas in Rojonoto due to institutional criteria may be obtained thought some priorities: first, SMEs support groups with the weight of 0.500; second, farmer groups strengthening with the weight of 0.500. Inconsistency ratio value at this stage is 0.00 which is <0.10 that the result of *hierarchical process analysis* is still consistent.

Policy Criteria. Strategies in developing Agropolitan areas in Rojonoto due to policy criteria may be obtained thought some priorities: first, agribusiness sub terminal development planning with the weight of 0.451; second, Agropolitan product promotion and marketing with the weight of 0.225; third, facilitation of home industry product packaging and labeling with the weight of 0.219; fourth, food diversification with the weight of 0.105. Inconsistency ratio value at this stage is 0.04 which is <0.10 that the result of analysis is still consistent.

All Criteria. Strategies in developing *Agropolitan* areas in Rojonoto of Wonosobo district due to HPA of various criteria may be obtained through some priorities: field farming study, the provision of agricultural seeds, post-harvest training, irrigation improvement, cultivation training, provision of agricultural machinery, agribusiness sub terminal planning development, new irrigation construction, farm road development. SMEs' support groups, farmer groups strengthening, souvenir making training, village tourism facilities development, agribusiness sub-terminal development, Agropolitan product promotion and marketing, agricultural product markets development, facilitation of home industry product packaging and labeling, and diversification. Inconsistency ratio value at this stage is 0.07 which is <0.10 that the result of analysis is consistent.

3.2. Discussion

The first priority strategies in developing *Agropolitan* areas in Rojonoto of Wonosobo

district are development of human resources and technologies. This is accordance with Mosher's agricultural development theory which states that to have better agricultural activities human resources training should be conducted. Development activities on human resources and technologies may be performed with post-harvest, agricultural field study, cultivation, and souvenirs making training activities. Development Activities on human resources and technologies aim to improve skills of Rojonoto people to have more added values on agricultural yields. The added values are expected to improve Rojonoto people's welfare in general. So far, *Agropolitan* development is still on product diversification stages. These are further agricultural activities upon the previous traditional agriculture stages.

4. Conclusions

Based on results of HPA conducted, strategies in developing *Agropolitan* areas in Rojonoto of Wonosobo district may be performed through priorities of human resource development (weight 0.293), the provision of production inputs (0.281), infrastructures (.178), policies (0.146), and institutions (0.101). Inconsistency ratio value on priorities of these criteria is 0.06.This value shows that the results of analysis are still consistent. Based on those criteria of priority, alternative priorities may be obtained as follows: field farming study, the provision of agricultural seeds, post-harvest training, irrigation improvement, new irrigation construction, cultivation training, the provision of agricultural machinery, strategic agribusiness subterminal development planning, farm roads Development, SMEs support groups, poktan strengthening, souvenir making training, food diversification, agribusiness sub-terminal development, promotion, and marketing *Agropolitan* products, agricultural product market development, and facilitation of home industry product packaging and labeling. Analysis on inconsistency ratio at this stage is 0.07 <0.10. It shows that the value of HPA is still consistent.

Suggestions. Based on results of analysis and discussions above, suggestions which may be proposed are local government in developing *Agropolitan* areas in Rojonoto should pay more attention to the development of human resources and technologies. However, the criteria of infrastructures, the provision of agricultural production inputs, institutions, and policies as complement are still needed. Among of them, those criteria may not be separated each other because they are at the same stages in developing agricultures in Rojonoto areas.

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